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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/798,327	03/12/2004	Kenji Suzuki	119059	6483

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EXAMINER	
NGUYEN, LUONG TRUNG	
ART UNIT	PAPER NUMBER
2622	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/798,327	SUZUKI, KENJI	
	Examiner	Art Unit	
	LUONG T. NGUYEN	2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 January 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Response to Arguments

2. Applicant's arguments, see Amendment, filed 01/28/2008, have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new non-final action sets forth below.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1, 2, 6, 13, 15, 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaneko et al (US 4,899,212) in view of Hieda et al. (US 5,019,894).

Regarding claim 1, Kaneko et al. discloses a white balance adjustment circuit comprising:

a first gain adjuster (variable gain amplifiers 22G, figure 1, column 4, lines 26-63) that adjusts a signal level of a second image-capturing signal based on a color temperature of a subject (control part 16 generates control signals based on color temperature detection part 34,

figure 1), the second image-capturing signal being provided by an image-capturing element (image pickup part 10, figure 1, column 4, lines 26-63) which captures an image of a subject through a spectroscopic element and outputs a first image-capturing signal corresponding to a first color, the second image-capturing signal corresponding to a second color and a third image-capturing signal corresponding to a third color;

a second gain adjuster (variable gain amplifiers 22R, figure 1, column 4, lines 26-63) that adjusts a signal level of the third image-capturing signal based on a color temperature of the subject (control part 16 generates control signals based on color temperature detection part 34, figure 1), the third image-capturing signal being provided by the image-capturing element;

a white balance adjuster (control part 16, figure 1, column 5, lines 20-32).

Kaneko et al. fails to disclose a white balance adjuster that adjusts a signal ratio among the first image-capturing signal, the second image-capturing signal having been adjusted by the first gain adjuster and the third image-capturing signal having been adjusted by the second gain adjuster to achieve a predetermined ratio. However, Hieda et al. teaches a white balance adjusting circuit in which the gain for each color component of a sensed image is adjusted so that the ratio of three primary color components (red, green, blue) in an illumination will be 1:1:1 (a predetermined ratio) for white object. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device in Kaneko et al. by the teaching of Hieda et al. in order to correct any deviation of white balance due to the colors of an object, so that it is unlikely to be affected by the colors of the object and its surroundings.

Regarding claim 2, Kaneko et al. discloses:

a color temperature detector (color temperature detection part 34, figure 1, column 5, lines 33-48) that detects the color temperature of the subject;

an instructing device (control part 16, figure 1, column 5, lines 20-32) that issues individual instructions for the first gain adjuster and the second gain adjuster to perform adjustment in correspondence to the color temperature detected by the color temperature detector.

Regarding claim 6, Kaneko et al. discloses wherein:

the first color is G color, and one of either the second color or the third color is R color and the other is B color (figure 1, column 4, lines 48-53).

Regarding claim 13, Kaneko et al. discloses an image-capturing apparatus (electronic still camera, column 4, lines 26-30) having the white balance adjustment circuit according to claim 1.

Regarding claims 15 and 17, Kaneko et al. discloses the white balance adjuster adjusts digital data of the second image-capturing signal having been adjusted by the first gain adjuster and digital data of the third image- capturing signal having been adjusted by the second gain adjuster (figure 1, column 4, lines 58-63; column 5, lines 20-32).

5. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kaneko et al. (US 4,899,212) in view of Hieda et al. (US 5,019,894) further in view of Kawada et al. (US 4,883,360).

Regarding claim 3, Kaneko et al. and Hieda et al. fail to disclose wherein when the color temperature detected by the color temperature detector is lower than a predetermined value, the instructing device issues instructions for the first gain adjuster and the second gain adjuster to set respective gains to predetermined initial values and when the color temperature is equal to or higher than the predetermined value, the instructing device issues instructions for the first gain adjuster and the second gain adjuster to set the gains lower than the respective initial predetermined values.

However, Kawada et al. teaches an automatically adjusting white balance, in which the gains of the red and blue signals can be controlled when a color temperature exceeds a predetermined range (column 3, lines 34-55). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device in Kaneko et al. by the teaching of Kawada et al. in order to provide an automatic white balance adjusting method and apparatus (column 2, lines 54-57).

6. Claims 4, 7-8, 10, 12, 14, 16, 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaneko et al. (US 4,899,212) in view of Hieda et al. (US 5,019,894) further in view of Suzuki (US 5,691,772).

Regarding claims 4, 10, Kaneko et al. discloses a third gain adjuster (variable gain amplifiers 22B, figure 1, column 4, lines 26-63) that adjusts a signal level of the first image-capturing signal provided by the image-capturing element.

Kaneko et al. and Hieda et al. fail to disclose a brightness detector that detects a brightness level of the subject, wherein when the brightness detected by the brightness detector is

equal to or higher than a predetermined brightness value, the instructing device issues an instruction for the third gain adjuster to set a gain adjusted thereby to a predetermined initial value and when the brightness level is lower than the predetermined brightness value, the instruction device issues an instruction for the third gain adjuster to set the gain higher than the initial value.

However, Suzuki teaches a white balance adjustment device comprises a photometric unit 107 which measures the brightness of the light received from the photographic subject and outputs a corresponding value to control unit 110 and then allows the control unit 110 to add the brightness level to the white balance adjustment process in order to gain further accuracy in carrying out white balance adjustments of the video signal (figures 3-4, column 4, line 66 – column 5, line 23; column 5, line 58 – column 6, line 34). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device in Kaneko et al. and Hieda et al. by the teaching of Suzuki in order to provide a white balance adjustment device which provides accuracy white balancing in the contexts of video and photographing processing (column 2, lines 39-43).

Regarding claim 7, Kaneko et al. discloses a white balance adjustment circuit comprising:

a first gain adjuster (variable gain amplifiers 22G, figure 1, column 4, lines 26-63) that adjusts a signal level of a first image-capturing signal based on a color temperature of a subject (control part 16 generates control signals based on color temperature detection part 34, figure 1), the first image-capturing signal being provided by an image-capturing element (image pickup part 10, figure 1, column 4, lines 26-63) which captures an image of a subject through a

spectroscopic element and outputs the first image-capturing signal corresponding to a first color, a second image-capturing signal corresponding to a second color and a third image-capturing signal corresponding to a third color;

a second gain adjuster (variable gain amplifiers 22R, figure 1, column 4, lines 26-63) that adjusts a signal level of the second image-capturing signal based on a color temperature of a subject (control part 16 generates control signals based on color temperature detection part 34, figure 1), the second image-capturing signal being provided by the image-capturing element;

a third gain adjuster (variable gain amplifiers 22B, figure 1, column 4, lines 26-63) that adjusts a signal level of the third image-capturing signal based on a color temperature of a subject (control part 16 generates control signals based on color temperature detection part 34, figure 1), the third image-capturing signal being provided by the image-capturing element;

a white balance controller (control part 16, figure 1, column 5, lines 20-32).

Kaneko et al. fails to disclose a white balance controller that individually controls the first gain adjuster, the second gain adjuster and the third gain adjuster so as to achieve a predetermined ratio among the individual image-capturing signal levels detected by the signal level detector. However, Hieda et al. teaches a white balance adjusting circuit in which the gain for each color component of a sensed image is adjusted so that the ratio of three primary color components (red, green, blue) in an illumination will be 1:1:1 (a predetermined ratio) for white object. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device in Kaneko et al. by the teaching of Hieda et al. in order to correct any deviation of white balance due to the colors of an object, so that it is unlikely to be affected by the colors of the object and its surroundings.

Regarding claim 8, Kaneko et al. discloses:

a color temperature detector (color temperature detection part 34, figure 1, column 5, lines 33-48) that detects a color temperature of the subject;

an instructing device (control part 16, figure 1, column 5, lines 20-32) that issues individual instructions for the first gain adjuster and the second gain adjuster to perform adjustment in correspondence to the color temperature detected by the color temperature detector.

Regarding claim 12, Kaneko et al. discloses wherein:

the first color is G color, and one of either the second color or the third color is R color and the other is B color (figure 1, column 4, lines 48-53).

Regarding claim 14, Kaneko et al. discloses an image-capturing apparatus (electronic still camera, column 4, lines 26-30) having the white balance adjustment circuit according to claim 7.

Regarding claims 16, 18, Kaneko et al. discloses the white balance controller controls digital data of the first image-capturing signal having been adjusted by the first gain adjuster, digital data of the second image- capturing signal having been adjusted by the second gain adjuster, and digital data of the third image-capturing signal having been adjusted by the third gain adjuster (figure 1, column 4, lines 58-63; column 5, lines 20-32).

7. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kaneko et al. (US 4,899,212) in view of Hieda et al. (US 5,019,894) and Kawada et al. (US 4,883,360) further in view of Suzuki (US 5,691,772).

Regarding claim 5, Kaneko et al. discloses a third gain adjuster (variable gain amplifiers 22B, figure 1, column 4, lines 26-63) that adjusts a signal level of the first image-capturing signal provided by the image-capturing element.

Kaneko et al., Hieda et al. and Kawada et al. fail to disclose a brightness detector that detects a brightness level of the subject, wherein when the brightness detected by the brightness detector is equal to or higher than a predetermined brightness value, the instructing device issues an instruction for the third gain adjuster to set a gain adjusted thereby to a predetermined initial value and when the brightness level is lower than the predetermined brightness value, the instruction device issues an instruction for the third gain adjuster to set the gain higher than the initial value.

However, Suzuki teaches a white balance adjustment device comprises a photometric unit 107 which measures the brightness of the light received from the photographic subject and outputs a corresponding value to control unit 110 and then allows the control unit 110 to add the brightness level to the white balance adjustment process in order to gain further accuracy in carrying out white balance adjustments of the video signal (figures 3-4, column 4, line 66 – column 5, line 23; column 5, line 58 – column 6, line 34). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device in Kaneko et al., Hieda et al. and Kawada et al. by the teaching of Suzuki in order to

provide a white balance adjustment device which provides accuracy white balancing in the contexts of video and photographing processing (column 2, lines 39-43).

8. Claims 9, 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaneko et al. (US 4,899,212) in view of Hieda et al. (US 5,019,894) and Suzuki (US 5,691,772) further in view of Kawada et al. (US 4,883,360).

Regarding claim 9, Kaneko et al., Hieda et al. and Suzuki fail to disclose wherein when the color temperature detected by the color temperature detector is lower than a predetermined value, the instructing device issues instructions for the first gain adjuster and the second gain adjuster to set respective gains to predetermined initial values and when the color temperature is equal to or higher than the predetermined value, the instructing device issues instructions for the first gain adjuster and the second gain adjuster to set the gains lower than the respective initial values.

However, Kawada et al. teaches an automatically adjusting white balance, in which the gains of the red and blue signals can be controlled when a color temperature exceeds a predetermined range (column 3, lines 34-55). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device in Kaneko et al., Hieda et al. and Kawada et al. by the teaching of Suzuki in order to provide an automatic white balance adjusting method and apparatus (column 2, lines 54-57).

Regarding claim 11, Suzuki discloses a brightness detector that detects a brightness level of the subject, wherein when the brightness detected by the brightness detector is equal to or

higher than a predetermined brightness value, the instructing device issues an instruction for the third gain adjuster to set a gain adjusted thereby to a predetermined initial value and when the brightness level is lower than the predetermined brightness value, the instruction device issues an instruction for the third gain adjuster to set the gain higher than the initial value (Suzuki teaches a white balance adjustment device comprises a photometric unit 107 which measures the brightness of the light received from the photographic subject and outputs a corresponding value to control unit 110 and then allows the control unit 110 to add the brightness level to the white balance adjustment process in order to gain further accuracy in carrying out white balance adjustments of the video signal, figures 3-4, column 4, line 66 – column 5, line 23; column 5, line 58 – column 6, line 34).

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to LUONG T. NGUYEN whose telephone number is (571) 272-7315. The examiner can normally be reached on 7:30AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, DAVID L. OMETZ can be reached on (571) 272-7593. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LN
06/09/08

/LUONG T NGUYEN/
Examiner, Art Unit 2622